

## CLAIMS

What is claimed is:

1. A faucet comprising:
  - a. a base configured for mounting on a support surface;
  - b. a body supporting a dispensing spout and a valve; and
  - c. a bayonet fitting configured to connect the base to the body and to prevent  
5 forward rotation of the base relative to the body beyond a designated stroke and to thereafter permit backward rotation and disconnection of the body from the base without the use of any tools.
2. The faucet of claim 1, wherein the bayonet fitting comprises:
  - a. at least two grooves formed in a circumferential surface of the base, and
  - b. at least two circumferentially spaced projections on the body,  
wherein the projections are configured to engage the grooves to secure the body  
5 to the base in a specific orientation between the body and the base.
3. The faucet of claim 2, wherein the grooves are at least generally L-shaped.
4. The faucet of claim 2, wherein the projections are evenly distributed around a circumferential surface of the body.

5. The faucet of claim 2, wherein the base includes only two grooves, and the body includes only two projections.
6. The faucet of claim 1, wherein the base has a chamber formed therein that is dimensioned and configured to house a water-sensitive device, the chamber being sealed from fluid ingress by a system of seals configured to seal the body to the base, the valve assembly to the body, and the base to the support surface so as to seal the chamber from  
5 fluid ingress.
7. A faucet comprising:
- a. a base which is configured to be mounted on a support surface and which has a chamber therein that is capable of receiving a water-sensitive device;
  - b. a body which is removably mounted on the base and which supports a  
5 valve assembly and a spout; and
  - c. a system of seals configured to seal the body to the base, the valve assembly to the body, and the base to the support surface so as to seal the chamber from fluid ingress.
8. The faucet of claim 7, wherein the base comprises:
- a. a pedestal which includes
    - i. a bottom surface that is configured to rest on the support surface,
    - ii. an outer peripheral wall, and
    - 5 iii. an inner peripheral wall which is spaced from the outer wall; and

b. a seal retaining ring positioned within the bottom of the pedestal, wherein the bottom surface of the seal retaining ring is notched at its outer periphery to define a seal-receiving groove between the notch of the seal retaining ring and an inner surface of the outer peripheral wall of the pedestal, and

10 wherein the system of seals includes a seal located in the seal-receiving groove to seal the chamber from below.

9. The faucet of claim 7, further comprising an air gap chamber which is formed by an air gap module housed in a vertical elliptical bore in the body, wherein the air gap module includes

- a. a base portion,
- 5 b. a mid-portion located adjacent the base portion, and
- c. a top portion located adjacent the mid-portion, wherein the system of seals includes a first air gap O-ring located at the base portion and a second air gap O-rings located at the top portion, and wherein the first and second air gap O-rings seal the base and top portions in the vertical bore.

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10. The faucet of claim 7, wherein the body includes an annular ring having a groove therein, and

wherein the pedestal includes

- i. a bottom surface that is configured to rest on the support surface,
- 5 ii. an outer peripheral wall, and

iii. an inner peripheral wall which is spaced from the outer wall and which is counterbored at an upper end thereof to receive the annular ring on the body,

wherein the system of seals includes a seal disposed in the groove in the annular ring to seal the annular ring to the base.

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11. The faucet of claim 7, wherein the body includes a bore having a stepped upper portion, further comprising a fitting that is inserted into the bore,

wherein the system of seals includes an O-ring disposed in the bore.

12. The faucet of claim 7, wherein the body includes a stem portion with a bore formed therein,

wherein the valve assembly comprises:

a. a valve body;

5 b. a valve stem; and

c. a valve housing that houses the valve body and the valve stem;

wherein the system of seals includes an O-ring that seals the valve housing to the bore in the stem portion.

13. The faucet of claim 7, wherein the valve assembly comprises:

a. a valve body;

b. a valve stem; and

c. a valve housing which houses the valve body and the valve stem;

5            wherein the system of seals includes O-rings which seal the valve stem to the  
valve housing while permitting relative rotation therebetween.

14.    The faucet of claim 7, further comprising:

        a.        a spout which extends from the body and which includes an inlet and an  
outlet, and

                wherein the system of seals includes O-rings sealing the spout to the body.

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15.    The faucet of claim 7, further comprising a bayonet fitting configured to connect  
the base to the body and to prevent a forward rotation of the body relative to the base  
beyond a designated stroke and to thereafter permit backward rotation and disconnection  
of the body from the base without the use of any tools.

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16.    A faucet comprising:

        a.        a base configured to be mounted on a support surface;

        b.        a body supporting a spout and a valve assembly;

        c.        a bayonet fitting configured to connect the base to the body and to prevent

5 a forward rotation of the body relative to the base beyond a designated stroke and to  
thereafter permit backward rotation and disconnection of the body from the base without  
the use of any tools;

        d.        an electronics package disposed within the body; and

        e.        a chamber that is hermetically sealed from liquid and that houses the

10 electronics package.

17. The faucet of claim 16, wherein the bayonet fitting comprises:
- a. at least two grooves formed in a circumferential surface of the base, and
  - b. at least two circumferentially spaced projections on the body,
- wherein the projections are configured to engage the grooves to secure the body
- 5 to the base in a specific orientation between the body and the base.
18. The faucet of claim 16, wherein the chamber is sealed from liquid by a system of seals configured to seal the body to the base, the valve assembly to the body, and the base to the support surface so as to seal the chamber from fluid ingress.